



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
OFFICE OF ENVIRONMENTAL MEASUREMENT & EVALUATION  
60 WESTVIEW STREET  
LEXINGTON, MASSACHUSETTS 02421-3185



SEMS DocID

594257

DATE: March 17, 1999

SUBJ: Comparison of Petroleum Oils by Gas Chromatography-American Glue & Resin Middleton, MA.

FROM: Peter Philbrook, Chemistry Section

THRU: Dr. William J. Andrade, Advanced Analytical Chemistry Specialist

TO: Gilberto Irizarry *WJA 3/22/99*

PROJECT NUMBER: 99187

ANALYTICAL PROCEDURE:

All samples were received and logged in by the laboratory according to the SOP for Sample Log-in (EIA-ADMLOGN1.SOP, 7/97).

EPA Region 1 Sample Preparation Procedure: Oil Identification, OILID3.SOP

EPA Region 1 Chromatographic Conditions: Module - 5890 Gas Chromatograph, 5890FID1.MOD

Date Sample Received by the Laboratory: March 3, 1999

Date Analysis Started: March 9, 1999

CC:

File: J:\CHEMISTRY\REPORTS\MISC\99187oil.id

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QUALITY CONTROL:

1. A laboratory blank was analyzed with the samples.
2. Sample 67827 was spiked with #2 fuel oil as a matrix spike (MS). The results are listed below.

<u>Sample ID</u>	<u>Result</u>
67827 MS	Match with #2 Fuel Oil/Diesel

Sample Results:

Qualitative Comparison (visual comparison of chromatograms):

<u>Sample ID</u>	<u>Results</u>
67827	No Match. There was no hydrocarbon pattern present in this sample.
67830	Probable Match with a 40 weight motor oil. The hydrocarbon range was C-26 through C-40 (pattern had a weathered appearance)
67834	Probable Match with a 40 weight motor oil. The hydrocarbon range was C-26 through C-40. (pattern had a weathered appearance)

Narrative: Three grams of each soil sample were extracted using Pressurized Fluid Extraction with cyclohexane and analyzed using a gas chromatograph equipped with a Flame Ionization Detector.

SAMPLES ANALYZED: 67827, 67830, 67834

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Chemist who reviewed data: Bill Andrade

Method modifications: None

Limitations of data: None

Laboratory blank problems: None

Instrument performance problems: None

Surrogate and spike recovery problems: None

Additional comments: None

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DEFINITIONS:

Match (M) - Identical data or data showing minor differences attributable to weathering.

Probable Match (PM) - Similar data showing moderate differences attributable to weathering and/or contamination.

Indeterminate (I) - Data showing excessive differences that might be attributable to weathering and/or contamination or might be attributable to a similar oil from a different source.

Mismatch (--) - Dissimilar data.

List of petroleum Oils analyzed for comparison:

#2 Fuel Oil	#1 Fuel Oil	Kerosene	Arabian light Crude
Prudhoe Bay Crude	So. Louisiana Crude	Pipestills Bunker	
Bunker C	5W30 Motor Oil	10W30 Motor Oil	10 W Motor Oil
20 W Motor Oil	30 W Motor Oil	40 W Motor Oil	
Brake Fluid	Premium Unleaded Gasoline	Regular Unleaded Gasoline	
Regular Leaded Gasoline	Automatic Transmission Fluid		
Axle Grease	Diesel Fuel		
High, Medium, Low, and Very Low Viscosity Lube Oils			